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Ray

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(54) **WIPES DISPENSER NOZZLE**

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(51) **Int. Cl.**

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B65D 83/08	(2006.01)
A47K 10/42	(2006.01)
A47K 10/38	(2006.01)
A47K 10/32	(2006.01)

(52) **U.S. Cl.**

CPC ***A47K 10/24*** (2013.01); ***A47K 10/3818*** (2013.01); ***A47K 10/421*** (2013.01); ***B65D 83/0805*** (2013.01); *A47K 2010/3266* (2013.01); *A47K 2010/3273* (2013.01)

(58) **Field of Classification Search**

CPC . B65D 83/0805; A47K 10/42; A47K 10/422; A47K 10/24

See application file for complete search history.

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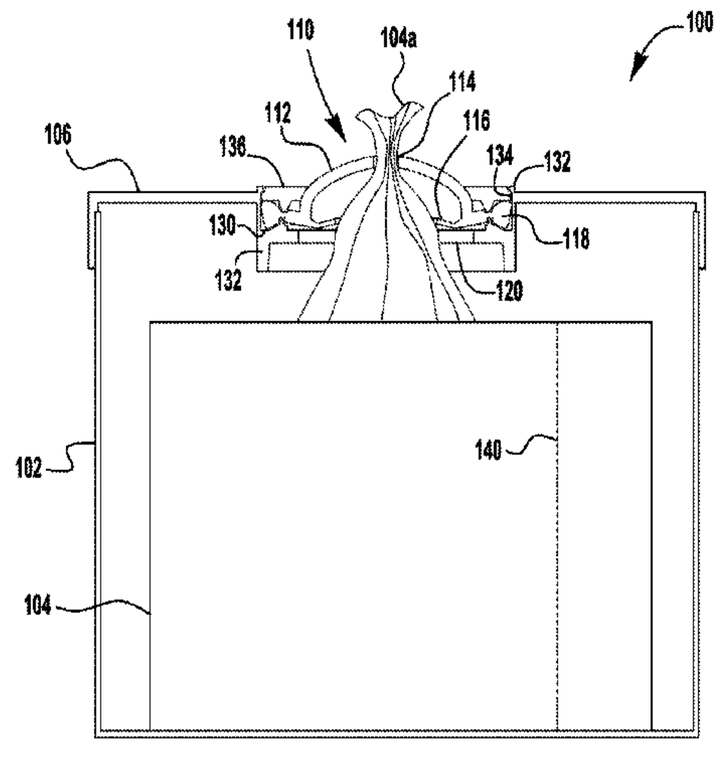
(57) **ABSTRACT**

One embodiment for dispensers for dispensing wet wipes includes a container, a plurality of wet wipes contained within the container and a dispensing nozzle made of a resilient material secured to the container. The dispensing nozzle includes an outlet opening in the nozzle. A fluid retaining member is located at a point below the opening. Another embodiment includes a container for holding a plurality of wipes. A dispensing nozzle includes a resilient member having an outlet opening is secured to the container. A fluid retaining member is located below the outlet. In one embodiment, the fluid retaining member has a surface that is sloped. Embodiments of dispensing nozzles for wet wipes are also disclosed wherein the dispensing nozzle includes a resilient dome shaped member having an opening located therein. In addition, the dispensing nozzle includes an annular fluid retaining ring. The annular fluid retaining ring may have a sloped surface.

20 Claims, 3 Drawing Sheets



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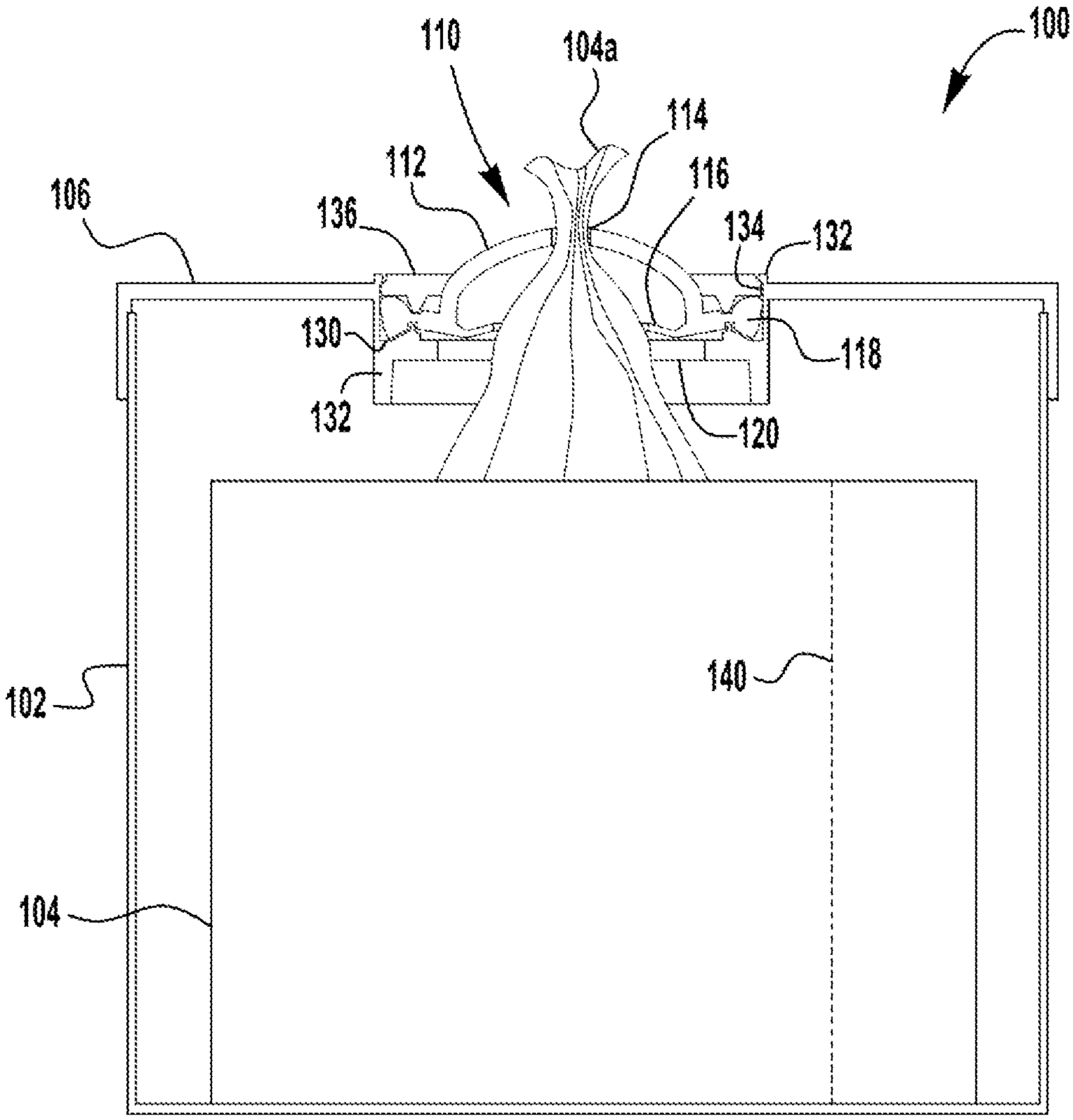
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104a
114
100
112
116
106
136
134
132
130
118
132
120
102
140
104

FIG. 1

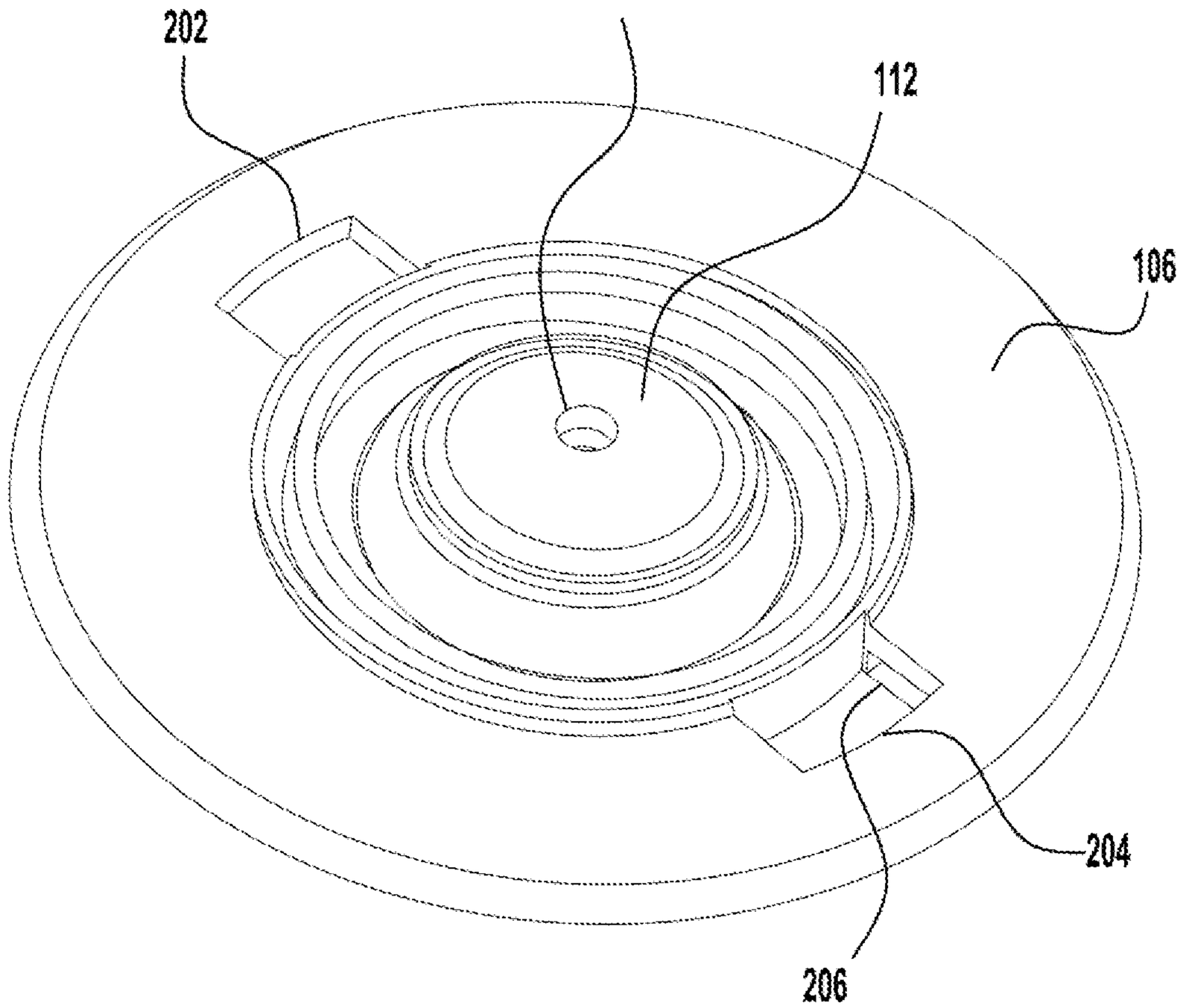

FIG. 2

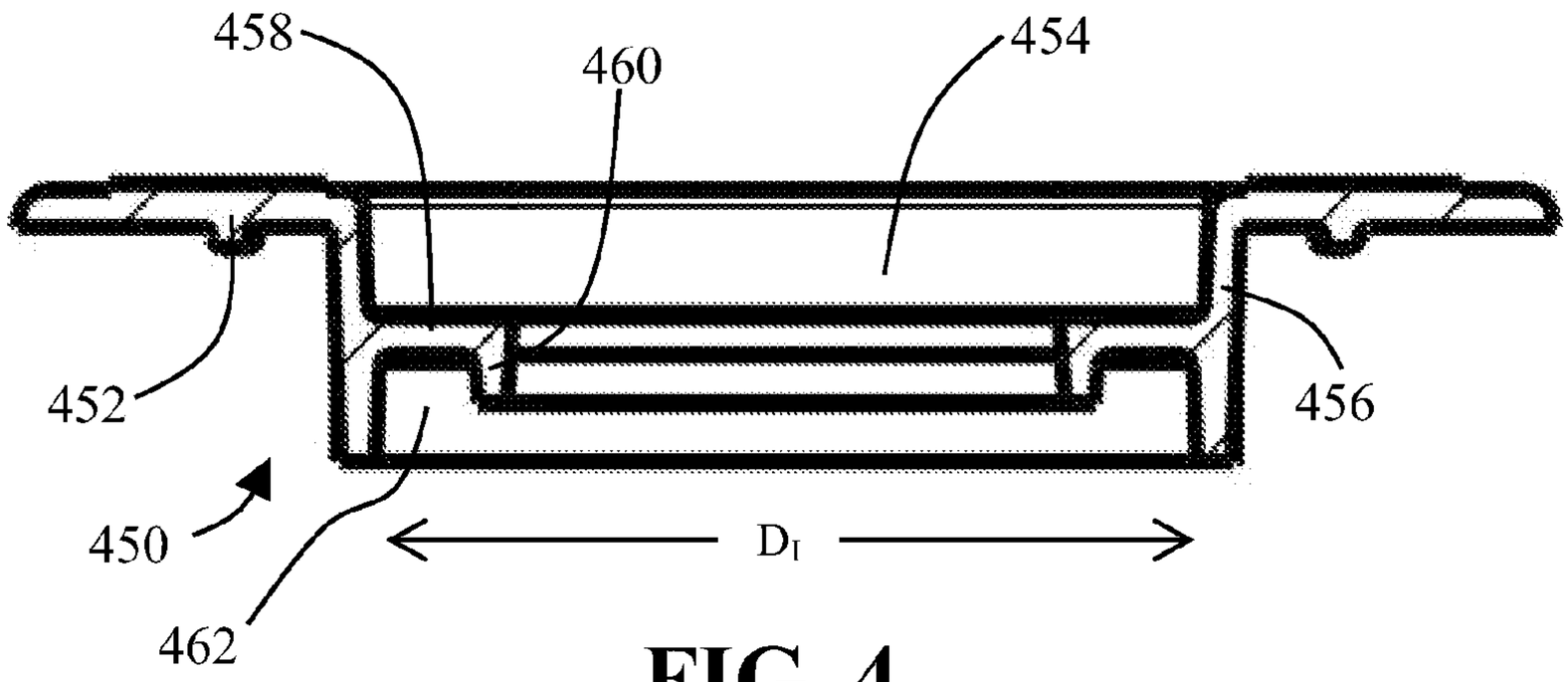

FIG. 4

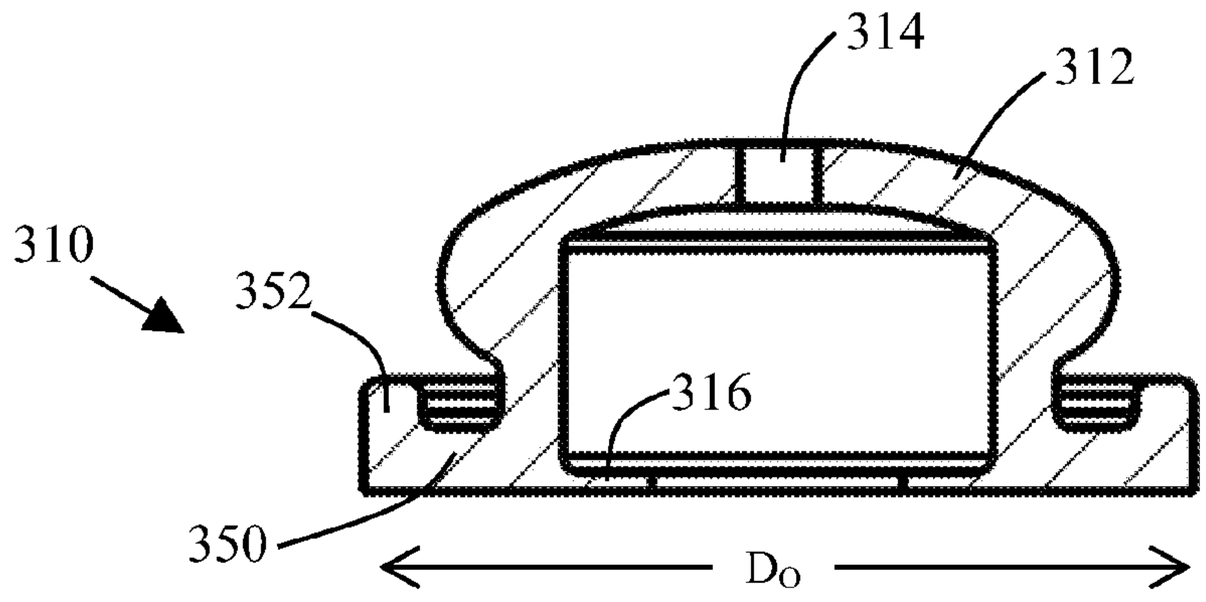

FIG. 3

WIPES DISPENSER NOZZLE

RELATED APPLICATIONS

This non-provisional utility patent application claims priority to and the benefits of U.S. Provisional Patent Application Ser. No. 61/649,536 filed on May 21, 2012 and entitled WIPES DISPENSER NOZZLE. That provisional application is incorporated herein by reference in its entirety.

TECHNICAL FIELD

The present invention generally relates to dispensers for dispensing wipes or moist towelettes. More particularly, the present invention relates to dome dispensing nozzles.

BACKGROUND OF THE INVENTION

Wipes are typically made from a variety of materials, such as non-woven materials. Wipes are often moistened with solutions, such as antimicrobial solutions. The wipes may be stacked and folded in a container or may be in the form of a roll. Wipes in the form of a roll typically have perforations between the wipes that are strong enough to remain attached to one another so that the top of the trailing wipe is pulled up through a dispensing outlet prior to the perforations tearing away and allowing the leading wipe to be used. Accordingly, the top of the trailing wipe may be grabbed by a user and pulled out of the container.

SUMMARY

Embodiments for dispensers for dispensing wet wipes are disclosed herein. One exemplary embodiment includes a container, a plurality of wet wipes contained within the container and a dispensing nozzle made of a resilient material secured to the container. The dispensing nozzle includes an outlet opening in the nozzle. A fluid retaining member is located at a point below the opening.

Another exemplary embodiment includes a container for holding a plurality of wipes. A dispensing nozzle is secured to the container. The dispensing nozzle includes a resilient member having an outlet opening. A fluid retaining member is located below the outlet. In one embodiment the fluid retaining member has a surface that is sloped.

Embodiments of dispensing nozzles for wet wipes are also disclosed wherein the dispensing nozzle includes a resilient dome shaped member having an opening located therein. In addition, the dispensing nozzle includes an annular fluid retaining ring. The annular fluid retaining ring may have a sloped surface.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other features and advantages of the present invention will become better understood with regard to the following description, and accompanying drawings where:

FIG. **1** illustrates a cross-sectional view of an embodiment of a wipes dispenser having a nozzle and a fluid retaining member;

FIG. **2** illustrates a cap with a wipes dispensing nozzle located therein;

FIG. **3** illustrates a cross-sectional view of an alternative embodiment of a nozzle and a fluid retaining member; and

FIG. **4** illustrates a cross-sectional view of a support ring for use with the nozzle and fluid retaining member of FIG. **3**.

DETAILED DESCRIPTION

FIGS. **1** and **2** illustrate an exemplary embodiment of a wet wipes dispenser **100**. Wipes dispenser **100** includes a container **102**. Located inside of container **102** is a roll of wipes **104**. The role of wipes **104** has periodic perforations **140** that are used to separate individual wipes from the role of wipes. In one embodiment, the wipes are individual wipes that are folded together such that the leading wipe pulls the trailing wipe through the opening before the two wipes separate. Wipes dispenser **100** includes a cap **106** secured to container **102**. Cap **106** may be secured to container **102** by any means such as, for example, a threaded connection, a welded connection, a snap-fit connection, an adhesive bonding connection or the like.

Cap **106** includes a recessed portion **132** that has an aperture **120** to allow wipes **104***a* to pass therethrough. In addition, recessed portion **132** has a support ledge **130**. Support ledge **130** supports an annular projection **118** of a dispensing nozzle **110**.

Dispensing nozzle **110** is made of a resilient material such as, for example, silicon. Dispensing nozzle **110** includes a dome **112** that has a narrow aperture or opening **114** therethrough. Opening **114** has a circular cross-section that may expand as needed to allow the wipe **104***a* to be pulled through the opening **114**. Nozzle **110** includes a fluid retaining member **116**. Fluid retaining member **116** is an annular member that has a sloped surface. In one embodiment, the sloped surface traps and holds liquid. As shown, fluid retaining member **116** is integrally molded with dome **112**; however, fluid retaining member **116** may optionally be a separate part.

Wipes dispenser **100** includes a retaining ring **136**. Retaining ring **136** secures dispensing nozzle **110** to cap **106**. Retaining ring **136** is retained with a snap-fit connection by projection **132** on cap **106** and projection **134** on retaining ring **136**.

In one embodiment, cap **106** may include a snap cover (not shown). If a snap cover is provided, a hinged member may fit in opening **204** wherein projections extending from the cover fit into apertures **206** so that the cover may rotate. On the other side of the cover would be a snap connector that would snap into slot **202** to maintain the cover in a closed position. In embodiments where no cover is used, opening **204** and slot **202** may be eliminated.

During operation, wipe **104***a* is pulled up through dispensing nozzle **110**. As wipe **104***a* is pulled up through narrow opening **114** of dispensing nozzle **110**, liquid is squeezed or rung out of the wipe **104***a*. The liquid travels along the inside of dome **112** and runs down to fluid retaining member **116**. The liquid contacts a portion of the wipe **104***a* that is passing by fluid retaining member **116** to re-wet the wipe **104***a*. Thus, fluid retaining member **116** helps ensure that all of the wipe **104***a* is wet. In addition, fluid retaining member **116** may hold liquid for a longer period of time and help keep the wipe **104***a* from drying out between uses. In one embodiment, fluid retaining member **116** and the size of opening **114** combine to eliminate the need for a re-closable cover (not shown) on cap **106**.

In addition, during operation when a wipe is pulled through an orifice, liquid is often expelled from the wipe in the form of a spray, especially when the wipe is pulled from the container rapidly. In one embodiment, fluid retaining member **116** prevents the expelled liquid from spraying.

FIGS. **3** and **4** respectively illustrate an alternative embodiment of a dispensing nozzle **310** and a support ring **450** for use with the dispensing nozzle **310**. Dispensing nozzle **310** is made of a resilient material such as, for example, silicon.

Dispensing nozzle **310** includes a dome **312** that has a narrow aperture or opening **314** therethrough. Opening **314** has a circular cross-section that may expand as needed to allow a wipe **104***a* (not shown) to be pulled through the opening **314**. Nozzle **310** includes a fluid retaining member **316**. Fluid retaining member **316** is an annular member that has a non-sloped, horizontal surface. In one embodiment, the horizontal surface **316** traps and holds liquid. As shown, fluid retaining member **316** is integrally molded with dome **312**; however, fluid retaining member **316** may optionally be a separate part. Dispensing nozzle **310** has an annular projection **350** underneath the dome **312**. The annular projection **350** has an upwardly extending flange **352** on an outer end in order for the nozzle **310** to be received within the support ring **450**, as described below.

Support ring **450** has a rim **452** for engagement with a cap (not shown) of a wet wipes dispenser. Support ring **450** includes a central opening **454** to allow wipes **104***a* to pass therethrough. An annular projection **456** extends down from the rim **452** in order to support the dispensing nozzle **310** within the central opening **454**. Annular projection **456** has an inner diameter D_1 which is substantially equal to the outer diameter D_o of the annular portion **350** of the dispensing nozzle **310** to provide a squeeze fit of the nozzle **310** within the annular projection **456**. Annular projection **456** further includes a ring **458** extending inwardly from the annular projection **456** to end at an inner lip **460**. Ring **458** and lip **460** form a receptacle **462** which receives the flange **352** of the nozzle **310** in a squeeze fit, helping to secure the nozzle **310** in place. Dispensing nozzle **310** may additionally or alternatively be secured to the support ring **450** by any other means such as, for example, a threaded connection, a welded connection, a snap-fit connection, an adhesive bonding connection, or the like.

As discussed above in connection with the cap **106**, the supporting ring **450** may include elements for connecting to an optional snap cover (not shown).

During operation, wipe **104***a* is pulled up through dispensing nozzle **310**. As wipe **104***a* is pulled up through narrow opening **314** of dispensing nozzle **310**, liquid is squeezed or rung out of the wipe **104***a*. The liquid travels along the inside of dome **312** and runs down to fluid retaining member **316**. The liquid contacts a portion of the wipe **104***a* that is passing by fluid retaining member **316** to re-wet the wipe **104***a*. Thus, fluid retaining member **316** helps ensure that all of the wipe **104***a* is wet. In addition, fluid retaining member **316** may hold liquid for a longer period of time and help keep the wipe **104***a* from drying out between uses. In one embodiment, fluid retaining member **316** and the size of opening **314** combine to eliminate the need for a re-closable cover (not shown) to be disposed over nozzle **310** and supporting ring **450**.

In addition, during operation when a wipe is pulled through an orifice, liquid is often expelled from the wipe in the form of a spray, especially when the wipe is pulled from the container rapidly. In one embodiment, fluid retaining member **316** prevents the expelled liquid from spraying.

Although the nozzle embodiments **110** and **310** illustrated herein have a dome shape, other shapes are contemplated such as, for example, a conical shape. In addition, fluid retaining members **116** and **316** may have shapes that are not annular. In one exemplary embodiment, the opening of fluid retaining member **116** or **316** is a longitudinal slit. In another, the opening of fluid retaining member **116** or **316** has a star shape. Other optional shapes include polygonal openings and sinusoidal slits.

While the present invention has been illustrated by the description of embodiments thereof, and while the embodiments have been described in considerable detail, it is not the intention of the applicant to restrict or in any way limit the scope of the appended claims to such detail. Additional advantages and modifications will readily appear to those skilled in the art. For example, the fluid retaining member may be separate from the dome nozzle. Therefore, the invention, in its broader aspects, is not limited to the specific details, the representative apparatus and illustrative examples shown and described. Accordingly, departures may be made from such details without departing from the spirit or scope of the applicant's general inventive concept.

While the present invention has been illustrated by the description of embodiments thereof, and while the embodiments have been described in considerable detail, it is not the intention of the applicant to restrict or in any way limit the scope of the appended claims to such detail. Additional advantages and modifications will readily appear to those skilled in the art. For example, the fluid retaining member may be separate from the dome nozzle. Therefore, the invention, in its broader aspects, is not limited to the specific details, the representative apparatus and illustrative examples shown and described. Accordingly, departures may be made from such details without departing from the spirit or scope of the applicant's general inventive concept.

I claim:

1. A dispenser for dispensing wet wipes comprising:
a container;
a plurality of wet wipes contained within the container;
a dispensing nozzle made of a resilient material secured to the container;
an outlet opening sized to squeeze fluid out of the wet wipe as it is pulled through the dispensing nozzle; and
a fluid retaining member located at a point below the outlet opening;
wherein the fluid retaining member retains fluid squeezed out of the wipe.

2. The dispenser of claim **1** wherein the fluid retaining member and dispensing nozzle are a unitary member.

3. The dispenser of claim **1** wherein the dispensing nozzle and fluid retaining member comprise silicon.

4. The dispenser of claim **1** wherein the retaining member has an upward angled surface.

5. The dispenser of claim **1** wherein the dispensing nozzle is in the form of a flexible dome and the outlet is round.

6. The dispenser of claim **5** further comprising a cap for the container, wherein the dispensing nozzle is located in the cap and held in place by a retaining ring.

7. The dispenser of claim **1** wherein the fluid retaining ring is annular.

8. A wet wipes dispenser comprising:
a container for holding a plurality of wipes; and
a dispensing nozzle secured to the container;
the dispensing nozzle comprising a resilient member having an outlet; and
a fluid retaining member located below the outlet;
wherein the outlet is sized to squeeze fluid out a wipe;
wherein fluid that is squeezed out of the wipe contacts the fluid retaining member
and contacts the wipe as it is being dispensed.

9. The wet wipes dispenser of claim **8** further comprising a plurality of wipes.

10. The wet wipes dispenser of claim **8** wherein the fluid retaining member and dispensing nozzle are a unitary member.

11. The wet wipes dispenser of claim **8** wherein the dispensing nozzle and the fluid retaining member comprise silicon.

12. The wet wipes dispenser of claim **8** wherein the retaining member has a sloped surface.

13. The wet wipes dispenser of claim **8** wherein the dispensing nozzle is in the form of a dome and the outlet is round.

14. A dispensing nozzle for wet wipes comprising:

a resilient dome shaped member;

an outlet opening located in the dome shaped member; and

an annular fluid retaining ring;

wherein the outlet is sized to squeeze fluid out a wipe and the fluid is retained by the fluid retaining ring; and

wherein the annular fluid retaining ring is configured to contact a wipe as it is being pulled out of the dispensing nozzle.

15. The dispensing nozzle of claim **14** further comprising a container and a roll of wipes.

16. The dispensing nozzle of claim **14** wherein the fluid retaining member and resilient dome shaped member are a unitary piece.

17. The dispenser of claim **14** wherein the dispensing nozzle and fluid retaining member comprise silicon.

18. The dispensing nozzle of claim **14** wherein the retaining member has a surface that is angled upward.

19. The dispensing nozzle of claim **14** wherein the outlet opening is round.

20. The dispensing nozzle of claim **14** further comprising a cap for the container, wherein the dispensing nozzle is located in the cap and held in place by a retaining ring.

* * * * *